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(54) Abstract Title
Bag with reclosure strip across corner

(57) A bag having a resealable strip 10 mounted on the internal surface of the bag for providing a re-usable closure on the bag is described. The strip 10 extends between an upper edge 6 of the bag and one of the sides thereof to provide a re-usable closure across an upper corner of the bag. Generally, the edges of the bag are also sealed prior to use. The sealed bag may be suitable to be opened by cutting or tearing the bag such as along line 12. The user may simply reseal the bag by urging mating faces of the resealable strip together to engage interlocking parts (26, 28, Figure 4(b)). Flow of material out of the opened bag is regulated by the size of the spout afforded adjacent the closure strip 10, and partial closure of the strip along its length by a user.

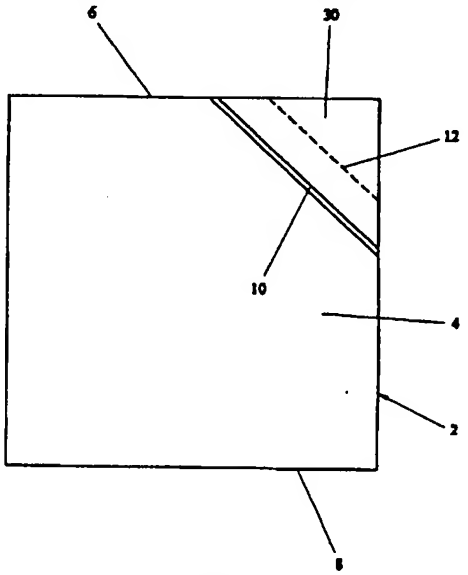

FIG. 1

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

The claims were filed later than the filing date but within the period prescribed by Rule 25(1) of the Patents Rules 1995.

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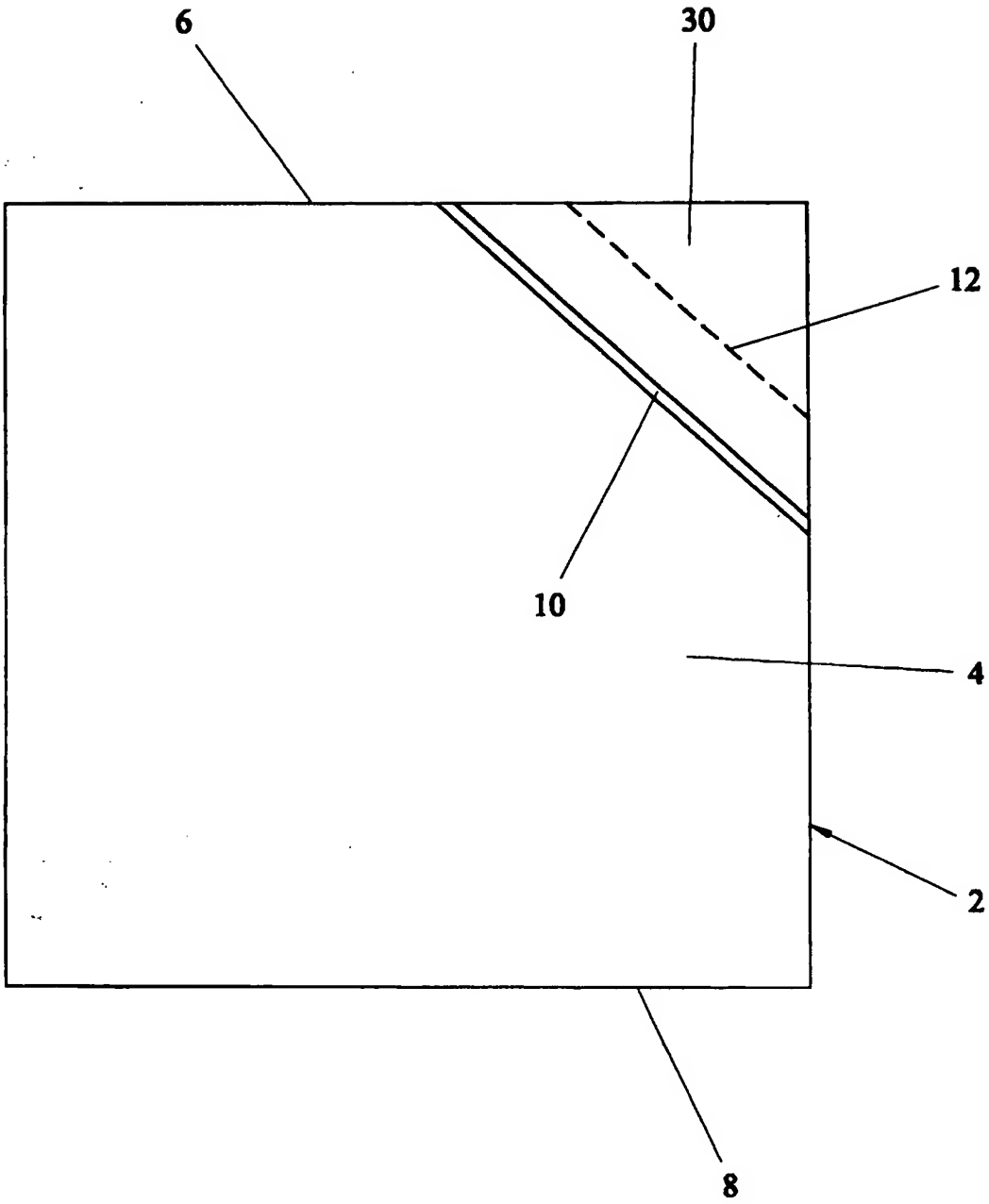

FIG. 1

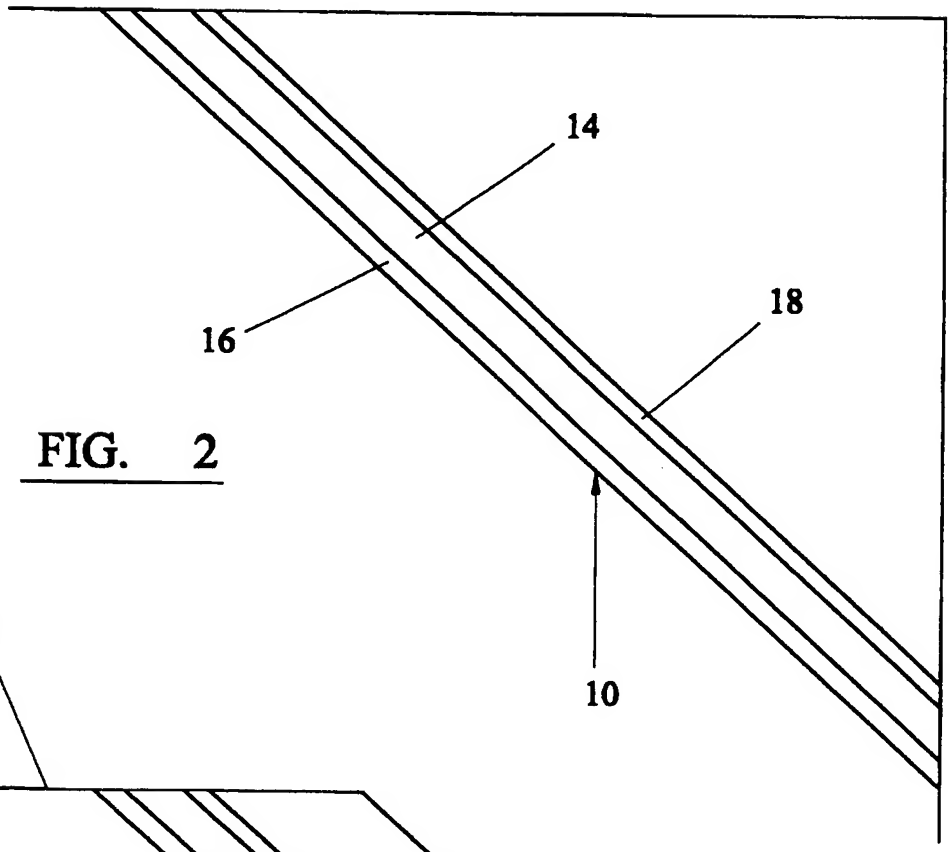

FIG. 2

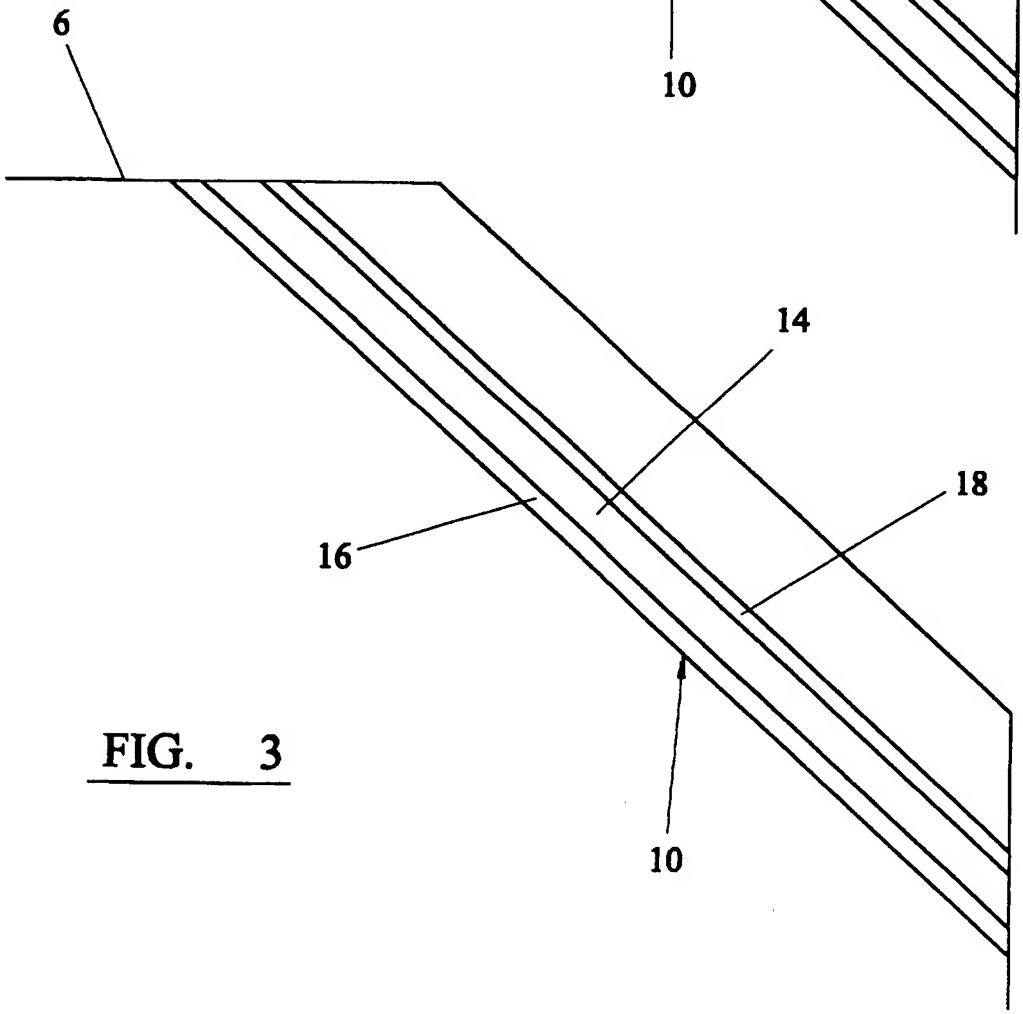

FIG. 3

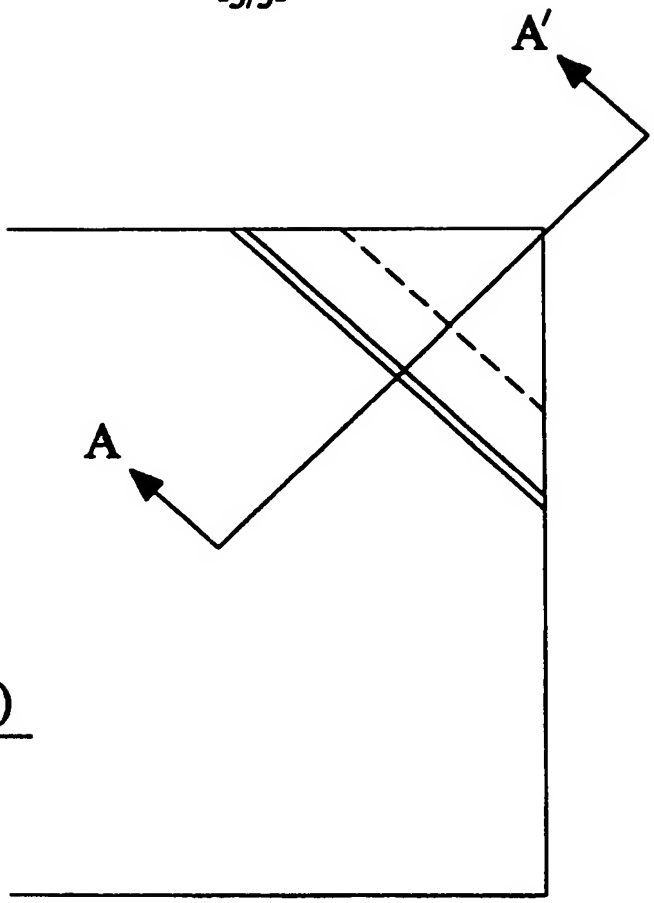

FIG. 4(a)

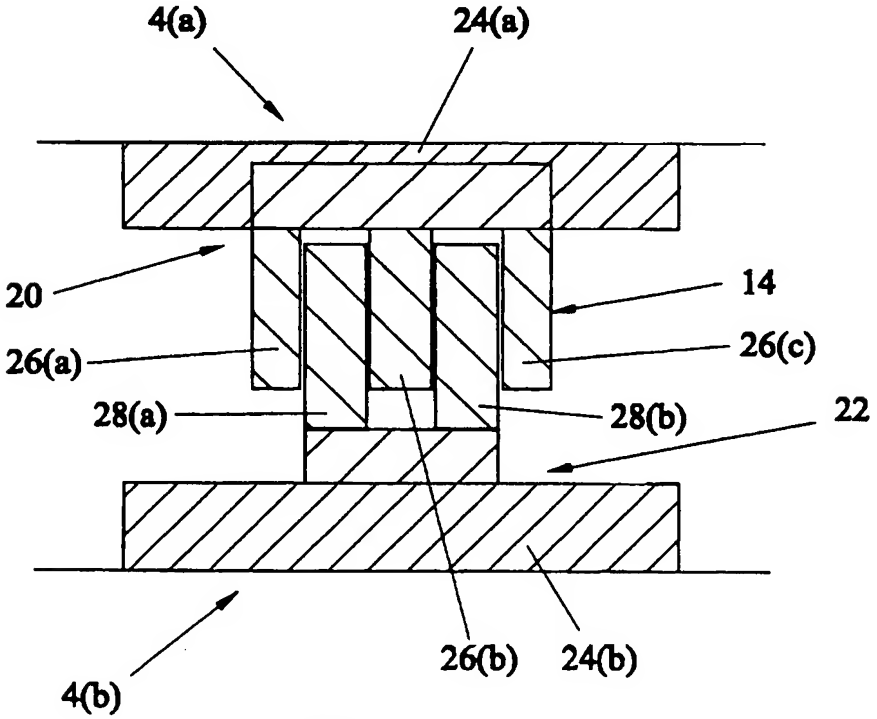

FIG. 4(b)

A BAG

The present invention relates to a bag, in particular, a bag of the type having a strip for resealing the bag after opening.

Plastic bags having resealing strips are commonly used. Typically, the strip extends parallel with the top edge of the bag usually being spaced downwardly from the top edge to provide a margin of material which may be gripped by the user when opening the sealing strip. The strip itself comprises a pair of mating plastic jaws located on opposite sides of the bag. The jaws may be push-fitted together to seal the bag or opened by pulling the opposed margin areas above the seal apart. The bags are generally sold as separate items and provide ready made sealable bags for the user who may place a product to be sealed in the bag and seal the bag using the strip. The seals are re-usable and will open and close repeatedly if necessary.

Sealed bags for numerous products are known and usually consist of a plastic or plastic/foil laminate material which is sealed at one or both ends. Such bags, after opening, may only be resealed using a special closure device such as a bag grip, a more traditional method such as a knot or a fold in the bag or a traditional closing device such as string or an elastic band wrapped around the bag.

Generally, all such methods involve some additional device to close the bag as well as additional effort on the part of the user. Furthermore, such methods are inefficient and tend to result in incomplete sealing of the bag leading to escape of the contents or the ingress of air.

It is one of the objects of the present invention to provide improved resealable bags.

It is a still further aspect of the present invention to alleviate the problem of resealing sealed bags after opening.

According to a first aspect of the present invention there is provided a bag having a resealable strip mounted on the internal surface of the bag for providing a re-usable closure on the bag, wherein the said strip extends between an upper edge of the bag and one of the sides thereof to thereby provide a re-usable closure across an upper corner of the bag.

Preferably, the upper edge of the bag is also sealed.

In this manner, a resealable opening is provided in the bag which only extends across the corner of the bag and is particularly useful for controlled pouring of the contents of the bag.

Advantageously, by providing a corner seal the contents of the bag may be emptied in a more controlled manner. Furthermore, the strip may also serve as an adjustable funnel. By partially closing the strip along only a section of its length, the size of the bag opening may be controlled by the user so that the rate of output flow of the contents of the bag may be regulated. Typically, this may be effected by closing the strip from the upper edge of the bag and partially along the length of the strip therefrom.

Preferably, the strip is spaced from the junction of the upper edge and the said side of the bag by a predetermined distance determined by the size of opening required.

Preferably, the strip comprises a pair of elongate interlocking faces securely mounted on opposite sides of the bag which may be pressed together to interlock and seal the bag or be pulled apart to provide the opening required. Typically, the strip faces are configured to mate with each other by a push fit activation.

The strip may be securely mounted on the bag by a suitable weldering technique in the case of plastic bags or, in the case of a non-plastic or composite bag, by means of a suitable adhesive. Other suitable techniques of attaching the strip to the walls of the bag may be used depending on the type of material used for the strip and the bag and such techniques will be known to those skilled in the art.

The strip width may be of any suitable size depending upon the strength required. Typically, the total strip width will be 5-20mm. The strip length will depend upon the size of the bag and specifically, the size of the opening required. Typically, the length will be 50-200mm.

According to a second aspect of the present invention there is provided a sealed bag suitable to be opened by cutting or tearing the bag, wherein a resealable strip is mounted on the internal surface of the bag and extends between two sides of the bag to provide a re-usable seal for the bag after the sealed bag has been opened.

Advantageously, such a bag is very convenient for the user who is not required to provide a separate closure device because the strip is mounted for use within the sealed bag.

Preferably, the said strip extends between an upper edge of the bag and one of the sides thereof to thereby provide

a resealable closure across an upper corner of the bag. Preferably, the bag is of the type which may be cut or torn across a corner in such a manner that the opening provided by the cut or tear may be resealed by the said strip.

The bag may have a serrated line to ease tearing thereof or an indication of a suitable cutting line for a cutting implement such as scissors and, in such cases, the sealing strip will be suitably located in the bag with respect to the cutting/tearing line to provide a re-usable seal for the bag after tearing or cutting has taken place. Generally, the strip is located suitably spaced from the likely opening to be made in the bag by the user to thereby provide a seal for the opening after use.

The second aspect of the invention may contain or include any of the preferred features of the strip of the first aspect of the invention detailed above.

Advantageously, as well as providing a convenient means of resealing a bag, the invention may also serve as an adjustable funnel when it is located across a corner of the bag. By partially closing the strip along only a section of its length, the size of the bag opening may be controlled by the user so that a rate of output flow of the contents of the bag may be regulated. Typically, this may be effected by closing the strip from the upper edge of the bag and only partially along the length of the strip therefrom to regulate the opening required.

The bags may be made of any suitable material which would be capable of being sealed using the integral resealable internal strip but, preferably, the bags are made of an easily deformable material such as plastic, paper, metal

foil or suitable composites thereof. Typically, the strip is made from a suitable plastic material but other suitable materials may be used.

An embodiment of the invention will now be described with reference to the accompanying drawings in which:-

figure 1 shows a schematic front elevation of a bag according to either aspect of the present invention;

figure 2 shows a schematic exploded view of an upper corner of the bag of figure 1;

figure 3 shows the exploded view of figure 2 with the corner of the sealed bag cut-away;

figure 4(a) shows the schematic view of figure 1 with a section line A-A'; and

figure 4(b) shows a schematic cross-sectional view across line A-A'.

Referring to figures 1 and 2, a plastic polyethylene bag 2 comprises a section of hollow tubular wall 4 which has been sealed at the upper 6 and lower 8 ends thereof to provide a sealed plastic bag. The bag has been passed through rollers prior to sealing so that the tubular walls are flattened to provide a flat surface prior to sealing. Alternatively, two separate layers of plastic may be placed over each other and sealed on both the sides and both the ends by a heat seal and cutter. Other suitable techniques for producing the sealed bag known to the skilled man may also be utilised.

The bag depicted in figures 1 and 2 has a strip 10 extending between the upper end and side of the bag across an upper corner of the bag at a 45° angle with respect to both the end and side of the bag. Similarly, a serrated or cutting line 12 extends in a similar manner across the bag, parallel with the strip 10 and spaced therefrom in the direction of the periphery of the bag 2. Referring to figure 2, the strip is shown in greater detail and comprises a central elongate mating section 14 extending from one end of the strip to the other and which will be described in greater detail hereinafter and a wider co-extensive mounting strip which provides side flanges 16, 18 along the length of the strip. The mounting strip comprises a film upon which the mating section is centrally mounted and which is weldered to the inside of the bag so that the strip is securely located in the bag. Referring to figure 4(b), the construction of the strip will now be described in more detail. Figure 4(b) shows a cross-section through the strip which comprises upper and lower jaws 20, 22. Both jaws comprise a mounting strip 24 which is weldered by heat sealing to the inside surface of the bag 4 at the required location. The mating section 14 is centrally mounted on the mounting strip 24 and comprises a set of teeth 26, 28. The upper jaw 20 has a set of three such spaced teeth 26 depending therefrom which engage with two such spaced teeth 28 extending upwardly from the lower jaw 22. The teeth 26, 28 are co-extensive with the mating section 14 and each extend along the full length of the strip. The teeth 26, 28 are each parallel with respect to each other and the equal spacing between the middle 26(b) and outer teeth 26(a), (c) of the upper jaw 20 is such as to accommodate the width of the teeth 28 of the lower jaw 22 in a friction fit after the jaws have been pushed together. Similarly, the spacing between the lower teeth 28 is such as to accommodate the

middle tooth 26(b) of the upper jaw in a friction fit after the jaws have been pushed together. The nature of the push-fit arrangement is such that the jaws may be pulled apart by the application of relatively gentle pressure in the outward direction.

Referring to figure 3, an exploded view of the bag of figure 1 is shown which has been cut along a serrated line 12 spaced outwardly from and parallel with the strip 10 so that the seal on the bag is removed. Figure 3 depicts the bag in use and shows that after removal of the upper corner 30 of the bag, the bag may be sealed across the corner using the sealing strip 10. Thereafter, the bag may be opened and closed as the user requires keeping the contents of the bag secure and/or fresh, the strip may be opened by the user only part way along its length so that the pouring out of the contents of the bag may be regulated.

The reader's attention is directed to all papers and documents which are filed concurrently with or previous to this specification in connection with this application and which are open to public inspection with this specification, and the contents of all such papers and documents are incorporated herein by reference.

All of the features disclosed in this specification (including any accompanying claims, abstract and drawings), and/or all of the steps of any method or process so disclosed, may be combined in any combination, except combinations where at least some of such features and/or steps are mutually exclusive.

Each feature disclosed in this specification (including any accompanying claims, abstract and drawings), may be

replaced by alternative features serving the same, equivalent or similar purpose, unless expressly stated otherwise. Thus, unless expressly stated otherwise, each feature disclosed is one example only of a generic series of equivalent or similar features.

The invention is not restricted to the details of the foregoing embodiment(s). The invention extends to any novel one, or any novel combination, of the features disclosed in this specification (including any accompanying claims, abstract and drawings), or to any novel one, or any novel combination, of the steps of any method or process so disclosed.

CLAIMS

1. A bag having a resealable strip mounted on the internal surface of the bag for providing a re-usable closure on the bag, wherein the said strip extends between an upper edge of the bag and one of the sides thereof to thereby provide a re-usable closure across an upper corner of the bag.

2. A bag according to claim 1, wherein the edges of the bag are also sealed prior to use.

3. A bag according to claim 1 or 2, wherein the strip is spaced from the corner junction of the upper edge and the said side of the bag by a predetermined distance determined by the size of opening required.

4. A bag according to any preceding claim, wherein the strip comprises a pair of elongate interlocking faces securely mounted on opposite faces of the bag which may be pressed together to interlock and seal the bag or be pulled apart to provide the opening required.

5. A bag according to claim 4, wherein the strip faces are configured to mate with each other by a push fit activation.

6. A bag according to any preceding claim, wherein the strip may be securely mounted on the bag by a suitable weldering technique in the case of plastic bags or, in the case of a non-plastic or composite bag, by means of a suitable adhesive.

7. A bag according to any preceding claim, wherein the strip width is determined the strength of seal required.

8. A bag according to any preceding claim, wherein the strip length is determined by the size of the opening required.

9. A sealed bag suitable to be opened by cutting or tearing the bag, wherein a resealable strip is mounted on the internal surface of the bag and extends between two sides of the bag to provide a re-usable seal for the bag after the sealed bag has been opened and, wherein the said strip extends between an upper edge of the bag and one of the sides thereof to thereby provide a resealable closure across an upper corner of the bag.

10. A bag according to claim 9, wherein the bag is of the type which may be cut or torn across a corner in such a manner that the opening provided by the cut or tear may be resealed by the said strip.

11. A bag according to claim 10, wherein the strip is located suitably spaced from the likely opening to be made in the bag by the user to thereby provide a seal for the opening after use.

12. A method of using a bag according to any preceding claim comprising the step of:-

resealing the bag by urging mating faces of the resealable strip together.

13. A method of using a bag according to claim 12, which includes the step of regulating the flow of material out of the bag by closing the strip partially along the length of the strip to regulate the opening required.

14. A method of producing a bag according to any of claims 1 to 11 comprising the step of:-

locating a resealable strip across the interior of a corner of the bag.

15. A method according to claim 14, which includes the step of sealing at least one open edge of the bag after location of the strip.

16. A method according to any of claims 14 or 15, wherein the resealable strip is fixedly located before the step of sealing at least one open edge of the bag.

17. A bag or a method according to any preceding claim, wherein the bag may be made of any suitable material which would be capable of being sealed using the resealable strip.

18. A bag as hereinbefore described with reference to the drawings.

19. A method of producing a bag as hereinbefore described.

20. A method of using a bag as hereinbefore described.

The Patent Office

INVESTOR IN PEOPLE

Application No: GB 9820035.5 **Examiner:** Stephen Smith
Claims searched: 1-20 **Date of search:** 23 February 1999

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.Q): B8K(KBA)

Int Cl (Ed.6): B65D 27/06, 27/20, 27/22, 33/16, 33/24, 33/30, 75/58

Other: ONLINE:EPODOC, WPI

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	GB 2311275 A (STADEN) Figure 10; lines 13/14 of page 3	1-17

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.